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length undoubtedly arises from some small error in measuring the interval of images on the plate.

The Astronomer Royal also stated that he had received from Mr. Bond a photograph of a transit of *α Lyræ*, which unfortunately had been so much broken in its conveyance by post (though carefully packed) that it was not fit for general exhibition. Enough of it, however, remained to show clearly that the transit-line is abundantly strong and well marked, and that it is uneven.

The Astronomer Royal exhibited photographs which he had received from Mr. Lassell, of the mounting of the large reflector which he is now preparing to erect. The diameter of the mirror (not yet worked) is to be 4 feet, the same size as Sir William Herschel's largest mirrors. The tube is a skeleton. The mounting is equatoreal, similar in its general form to that which Mr. Lassell has used with smaller telescopes. A part of the apparatus of which the plan is perfectly novel is the observing-box. It is something like a very tall sentry-box, between 30 and 40 feet high, in which slides upwards and downwards a cage like the teagle of a cotton-mill; in this cage the observer is stationed. The tall box stands upon a ring-turn-table which surrounds the telescope's polar axis. The ring appears to have a motion in azimuth, and the tall box has a radial motion on the ring; and the combination of these two motions with vertical motion of the teagle gives command of the telescope's mouth in all positions. The tall box is so arranged that, when the telescope is turned to a proper azimuth, and is depressed to a nearly horizontal position, the tall box, turning upon a hinge at its base, can be lowered over the telescope-tube to protect it from the weather.

Mr. Warren De La Rue said, he had had the pleasure of seeing the models of Mr. Lassell's telescope, from which the photographs were taken. In addition to the particular motions described, the mounting for the observer was hinged, so as to cover the telescope; and it also turned upon an axis, so as to present the observer in the most favourable position with regard to the eye-piece. He had himself, with the labour of five years, mastered the process of making a 13-inch reflector; but the labour incurred by Mr. Lassell was enormous. He had to mount a telescope, the reflector of which weighed a ton and a half. This required a special set of experiments, and the erection of machinery for polishing, &c., besides the labour and expense of transporting it to Malta. Under these circumstances they had reason to be proud of the energy Mr. Lassell had displayed.

The following extract from a paper by Mr. Bond, recently published in an American journal,* contains some further informa-

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* "Boston Daily Advertiser," June 8, 1857.

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tion respecting Mr. Bond's labours in applying photography to astronomical purposes:—

"The near approach of the star *Spica Virginis* to the moon on the evening of the 2d instant presented a favourable opportunity for testing the practicability of obtaining photographic impressions of a star when in close proximity to the moon; it being a question which had hitherto never been decided, Whether the diffused light in the immediate vicinity of the moon would not overpower the actinic effect of the star? Preparations were accordingly made at the Observatory of Harvard College for the purpose of deciding this point; and as Messrs. Whipple and Black, the eminent daguerreotypists, to whom we have on former occasions been so much indebted, volunteered their services, a large number of photographic pictures of the moon and the star in its neighbourhood were obtained before and after the eclipse; even at the emersion, when the star was in apparent contact with the bright limb of the moon, its image was distinctly formed.

"The experiment was perfectly successful, pictures of the lunar mountains were impressed on the glass plates by the collodion process simultaneously with that of the star, with minuteness and precision, serving as admirable points from which to measure the distance and position of the star.

"It is a curious fact worth noticing that in every instance the impressions of the star were, if anything, *too strong*,—the very reverse of what had been anticipated; the possible minimum time of exposure of the plate requisite for obtaining a visible impression of the object upon it could not at that time be ascertained. This is a favourable indication, as the shorter the time required the more accurate will be the result.

"W. C. BOND.

"*Harvard College Observatory, Cambridge,*
"*June 5th*, 1857."

Astronomical Observations made at the Royal Observatory, Edinburgh. By Charles Piazzi Smyth, F.R.SS.L. & E., F.R.A.S., &c., Vol. XI., Edinburgh, 1857.

This volume contains the meridional observations made at the Edinburgh Observatory from 1849 to 1854 inclusive, with the necessary corrections for instrumental and clock-error, and the final reduction to mean right ascension and north polar distance. The objects observed are exclusively stars. The labours for each year are kept separate. Appended to the volume is an account of occasional observations. These are, first, Observations of Earth-Thermometers from 1837 to 1854; second, An experimental trial of the Theory of Solar Refraction; third, Contributions to Lunar Physics; and fourth, an account of the Total Solar Eclipse of 1851. The first, third, and fourth papers are accompanied by coloured lithographic illustrations. The first, second, and fourth papers

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